

Title: EXPANDED BED AFFINITY-CHROMATOGRAPHY OF DEHYDROGENASES FROM BAKERS-YEAST USING DYE-LIGAND PERFLUOROPOLYMER SUPPORTS (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: AFFINITY CHROMATOGRAPHY ; PERFLUOROPOLYMERS ; EXPANDED BED ; DYE-LIGAND ; DEHYDROGENASES

Identifiers--KeyWords Plus: HUMAN SERUM-ALBUMIN; CI REACTIVE BLUE-2; TRIAZINE DYES; PERFLUOROCARBON EMULSIONS; PROCESS SCALE; BLOOD-PLASMA; PURIFICATION; PROTEINS; ADSORBENTS; PERFORMANCE

14/8/12 (Item 1 from file: 71)

01325870 1999236498

Expanded bed protein A affinity chromatography of a recombinant humanized monoclonal antibody: Process development, operation, and comparison with a packed bed method

14/8/13 (Item 2 from file: 71)

01297104 2000010653

Expanded bed adsorption on supermacroporous cross-linked cellulose matrix

14/8/14 (Item 3 from file: 71)

01191486 1999161108

Direct purification of lysozyme from hen egg white using high density mixed mode adsorbent

14/8/15 (Item 4 from file: 71)

00478064 96172021

Polymer-shielded dye-ligand chromatography of lactate dehydrogenase from porcine muscle in an expanded bed system

PUBLICATION DATE: 19960000

14/8/16 (Item 5 from file: 71)

00415111 96108894

Large scale recovery and purification of periplasmic recombinant protein from E. coli using expanded bed adsorption chromatography followed by new ion exchange media

PUBLICATION DATE: 19960000

? ds

Set	Items	Description
S1	78554	(KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN
S2	2713819	PURIF? OR ISOLAT? OR SEPARAT?
S3	61	"EXPANDED BED"
S4	19678	HYDROXYAPATITE
S5	2	S3 AND S4
S6	9953	S2 AND S1
S7	15	S6 AND S4
S8	4850	PASTORIS
S9	102	S1 AND S8
S10	50	S9 AND S2
S11	31531237	PY<=1999
S12	34	S11 AND S10
S13	34	S3 AND S2
S14	16	S13 AND S11

Connecting via Winsock to Dialog

Logging in to Dialog

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DIALOG INFORMATION SERVICES

PLEASE LOGON:

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File 410:Chronolog(R) 1981-2003/Jan

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Cost is in DialUnits

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05mar03 14:33:11 User268147 Session D51.3

\$0.00 0.081 DialUnits File410

\$0.00 Estimated cost File410

\$0.00 Estimated cost this search

\$0.00 Estimated total session cost 0.081 DialUnits

File 410:Chronolog(R) 1981-2003/Jan

(c) 2003 The Dialog Corporation

Set Items Description

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? b 5, 34, 71, 434

05mar03 14:33:27 User268147 Session D51.4

\$0.00 0.072 DialUnits File410

\$0.00 Estimated cost File410

\$0.06 TELNET

\$0.06 Estimated cost this search

\$0.06 Estimated total session cost 0.153 DialUnits

SYSTEM:OS - DIALOG OneSearch

File 5:Biosis Previews(R) 1969-2003/Feb W4

(c) 2003 BIOSIS

*File 5: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 34:SciSearch(R) Cited Ref Sci 1990-2003/Feb W4

(c) 2003 Inst for Sci Info

*File 34: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 71:ELSEVIER BIOBASE 1994-2003/Mar W1

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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

Set Items Description

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? s (kringle? or plasminogen) or angiostatin

2763 KRINGLE?

77017 PLASMINOGEN

1138 ANGIOSTATIN

S1 78554 (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN

? s purif? or isolat? or separat?

Processing

626188 PURIF?

1524695 ISOLAT?

833520 SEPARAT?

S2 2713819 PURIF? OR ISOLAT? OR SEPARAT?

? s "expanded bed"

S3 61 "EXPANDED BED"

? s hydroxyapatite

S4 19678 HYDROXYAPATITE

? s s3 and s4

61 S3

19678 S4

S5 2 S3 AND S4

? type s5/full/all

5/9/1 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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10083131 Genuine Article#: 483WL Number of References: 21

Title: Effects of adsorbent properties on zone spreading in expanded bed chromatography

Author(s): Yamamoto S; Okamoto A; Watler P

Corporate Source: Yamaguchi Univ, Dept Chem Engr, Ube/Yamaguchi

7558611/Japan/

Journal: BIOSEPARATION, 2001, V10, N1-3, P1-6

ISSN: 0923-179X Publication date: 20010000

Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS

Language: English Document Type: ARTICLE

Geographic Location: Japan

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Abstract: The mixing performance as well as the adsorption performance in expanded bed chromatography (EBC) was investigated by using various types of adsorption media (average particle size = 100-700 μm , density = 1100-1700 kg/m^3), base matrix = hydroxyapatite, styrene-divinylbenzene, cross-linked agarose). The scale down study with 0.8 cm diameter columns was also attempted. Pulse response curves were measured with vitamin B-12 as a tracer [Residence time distribution RTD experiments], and the HETP (height equivalent to a theoretical plate or plate height) values were calculated from the peak variance and the peak retention time. The HETP values for different types of packing media tested showed very similar values (0.5-1.0 cm), which did not depend on the flow-rate or the column diameter (0.8-2.6 cm). Dynamic binding capacity (DBC) values of lactic acid on a Dowex anion-exchange resin were determined from breakthrough curve (BTC) measurements for both EBC and fixed bed chromatography (FBC). The DBC values for EBC were similar to those for FBC. When the liquid feed contained insoluble particles (yeast cells) the degree of mixing increased. However, the contribution of the mixing to the total spreading of BTCs for EBC was usually small so that this increase in the mixing did not affect the adsorption performance or the DBC values significantly.

Descriptors--Author Keywords: dynamic binding capacity ; expanded bed ; fluidized bed ; HETP ; residence time distribution

Identifiers--KeyWord Plus(R): ADSORPTION; PERFORMANCE

Cited References:

*PHARM BIOT, 1997, EXP BED ADS PRINC ME

ARNOLD FH, 1985, V30, P9, CHEM ENG J B

BATT BC, 1995, V5, P41, BIOSEPARATION

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5/9/2 (Item 1 from file: 71)
 DIALOG(R)File 71:ELSEVIER BIOBASE
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01931028 2002012003
 Effects of adsorbent properties on zone spreading in expanded bed
 chromatography
 Yamamoto S.; Okamoto A.; Watler P.
 ADDRESS: S. Yamamoto, Department of Chemical Engineering, Yamaguchi
 University, Tokiwadai, Ube 755-8611, Japan
 EMAIL: shu-yama@po.cc.yamaguchi-u.ac.jp
 Journal: Bioseparation, 10/1-3 (1-6), 2001, Netherlands
 CODEN: BISPE
 ISSN: 0923-179X
 DOCUMENT TYPE: Article
 LANGUAGES: English SUMMARY LANGUAGES: English
 NO. OF REFERENCES: 21

The mixing performance as well as the adsorption performance in expanded
 bed chromatography (EBC) was investigated by using various types of
 adsorption media (average particle size = 100-700 µm, density = 1100-1700
 kg/m³ SUP3, base matrix = hydroxyapatite, styrene-divinylbenzene,
 cross-linked agarose). The scale down study with 0.8 cm diameter columns
 was also attempted. Pulse response curves were measured with vitamin B₁₂
 as a tracer [Residence time distribution RTD experiments], and the HETP
 (height equivalent to a theoretical plate or plate height) values were
 calculated from the peak variance and the peak retention time. The HETP
 values for different types of packing media tested showed very similar
 values (0.5-1.0 cm), which did not depend on the flow-rate or the column
 diameter (0.8-2.6 cm). Dynamic binding capacity (DBC) values of lactic acid
 on a Dowex anion-exchange resin were determined from breakthrough curve
 (BTC) measurements for both EBC and fixed bed chromatography (FBC). The DBC
 values for EBC were similar to those for FBC. When the liquid feed
 contained insoluble particles (yeast cells) the degree of mixing increased.
 However, the contribution of the mixing to the total spreading of BTCs for
 EBC was usually small so that this increase in the mixing did not affect
 the adsorption performance or the DBC values significantly.

DESCRIPTORS:
 Dynamic binding capacity; Expanded bed; Fluidized bed; HETP;
 Residence time distribution

CLASSIFICATION CODE AND DESCRIPTION:
 85.1.8.1 - APPLIED MICROBIOLOGY AND BIOTECHNOLOGY / BIOTECHNOLOGY -
 TECHNIQUES AND PROCEDURES / Downstream Processing / Chromatography
 ? ds

Set	Items	Description
S1	78554	(KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN
S2	2713819	PURIF? OR ISOLAT? OR SEPARAT?
S3	61	"EXPANDED BED"
S4	19678	HYDROXYAPATITE
S5	2	S3 AND S4
? s s2 and s1		
	2713819	S2
	78554	S1
S6	9953	S2 AND S1
? s s6 and s4		

9953 S6
19678 S4
S7 15 S6 AND S4
? type s7/full/all

7/9/1 (Item 1 from file: 5)
DIALOG(R)File 5: Biosis Previews(R)
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12841210 BIOSIS NO.: 200100048359

Large-scale purification of recombinant human angiostatin.

AUTHOR: Shepard Scot R(a); Boucher Robert; Johnston Jeremy; Boerner Renee;
Koch George; Madsen John W; Grella Davida; Sim B Kim Lee; Schrimsher
Jeffrey L

AUTHOR ADDRESS: (a)Covance Biotechnology Services Inc., 3000 Weston
Parkway, Cary, NC, 27513: scot.shepard@covance.com**USA

JOURNAL: Protein Expression and Purification 20 (2):p216-227 November,
2000

MEDIUM: print

ISSN: 1046-5928

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: A process for the purification of recombinant human
angiostatin (rhAngiostatin), produced by *Pichia pastoris*
fermentation operated at the 2000-L scale, is reported. rhAngiostatin was
recovered and purified directly from crude fermentation broth by
cation exchange expanded bed adsorption chromatography. Anion exchange
chromatography, hydroxyapatite chromatography, and hydrophobic
interaction chromatography were used for further purification.
Full-length rhAngiostatin was separated from rhAngiostatin
molecules fragmented by endoproteolysis. On average, 140 g of
rhAngiostatin was produced per batch, with an overall yield of 59% (n =
9). The purification process was completed in approximately 48 h
and used only inexpensive and nontoxic raw materials. Methods
development, process synthesis, and process scale-up data are presented
and discussed.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Bioprocess
Engineering; Methods and Techniques

BIOSYSTEMATIC NAMES: Ascomycetes--Fungi, Plantae

ORGANISMS: *Pichia pastoris* {yeast} (Ascomycetes)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Fungi; Microorganisms;
Nonvascular Plants; Plants

CHEMICALS & BIOCHEMICALS: recombinant human angiostatin--
purification

METHODS & EQUIPMENT: SDS-PAGE {SDS-polyacrylamide gel electrophoresis}--
analytical method, electrophoretic techniques; Western blot--detection
method, detection/labeling techniques, gene mapping; anion exchange
chromatography--column chromatography, purification method; bed
absorption chromatography--column chromatography, purification
method; cation exchange chromatography--column chromatography,
purification method; large-scale purification--
Isolation/Purification Techniques--CB, purification
method; protein purification--Isolation/Purification
Techniques--CB, purification method; reverse phase-HPLC--
chromatographic techniques, purification method; yeast
fermentation--Isolation/Purification Techniques--CB,
purification method

CONCEPT CODES:

10060 Biochemical Studies-General

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

39008 Food and Industrial Microbiology-General and Miscellaneous

51522 Plant Physiology, Biochemistry and Biophysics-Chemical
Constituents

BIOSYSTEMATIC CODES:

15100 Ascomycetes

7/9/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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09238928 BIOSIS NO.: 199497247298

Expression and characterization of a chimeric bispecific antibody against
fibrin and against urokinase-type plasminogen activator.

AUTHOR: Tada Hiroko; Kurokawa Tomofumi; Seita Takeshi; Watanabe Takeshi;
Iwasa Susumu(a)

AUTHOR ADDRESS: (a)DDS Res. Lab., Pharmaceutical Res. Div., Takeda Chem.
Industries Ltd., Jusohonmachi, Yodogawa-ku**Japan

JOURNAL: Journal of Biotechnology 33 (2):p157-174 1994

ISSN: 0168-1656

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: We have produced a chimeric bispecific antibody that has dual
specificity of human fibrin and urokinase-type plasminogen
activator (uPA). Complementary DNAs for variable regions of both
anti-fibrin and anti-u-PA antibodies were cloned from two murine
hybridomas secreting respective antibodies using polymerase chain
reaction (PCR) techniques, and joined to cDNAs for human constant regions
to form chimeric antibody genes. Both of two expression vectors for
chimeric anti-fibrin and chimeric anti-uPA antibodies were sequentially
introduced into Chinese hamster ovary cells, and stable transfectants
secreting the chimeric bispecific antibody were obtained. The highest
producer transfectant (SULF/C2-30) secreted high level (about 40 μ g
ml⁻¹) of total chimeric IgG and about 2% of the IgG had the bispecific
activity of binding with both antigens. The chimeric bispecific antibody
was purified by a combination of affinity chromatographies
employing antigen-coupled columns and hydroxyapatite
high-performance liquid chromatography. The purified chimeric
bispecific antibody significantly enhanced the thrombolytic potency of
single chain u-PA in an in vitro clot lysis assay as well as the original
murine bispecific antibody.

REGISTRY NUMBERS: 9039-53-6: UROKINASE

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and
Lymphatics (Transport and Circulation); Cell Biology; Enzymology
(Biochemistry and Molecular Biophysics); Genetics; Metabolism; Methods
and Techniques; Molecular Genetics (Biochemistry and Molecular
Biophysics); Pharmacology

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata,
Animalia; Mammalia-Unspecified--Mammalia, Vertebrata, Chordata,
Animalia; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae); mammal (Mammalia - Unspecified); mouse
(Muridae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans;
mammals; nonhuman mammals; nonhuman vertebrates; primates; rodents;
vertebrates

CHEMICALS & BIOCHEMICALS: UROKINASE

MISCELLANEOUS TERMS: ANTIGENS; BIOTECHNOLOGY; COMPLEMENTARY DNA;
GENETIC ENGINEERING; GENETICS; HIGH PERFORMANCE LIQUID CHROMATOGRAPHY;
HYBRIDOMA; METHODS; PHARMACEUTICALS; PURIFICATION METHOD

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal
03506 Genetics and Cytogenetics-Animal
03508 Genetics and Cytogenetics-Human
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10068 Biochemical Studies-Carbohydrates
10300 Replication, Transcription, Translation
10502 Biophysics-General Biophysical Studies

10504 Biophysics-General Biophysical Techniques
10804 Enzymes-Methods
10806 Enzymes-Chemical and Physical
10808 Enzymes-Physiological Studies
13002 Metabolism-General Metabolism; Metabolic Pathways
13004 Metabolism-Carbohydrates
13012 Metabolism-Proteins, Peptides and Amino Acids
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph
Studies
22002 Pharmacology-General
32500 Tissue Culture, Apparatus, Methods and Media
BIOSYSTEMATIC CODES:
86375 Muridae

7/9/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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03569966 BIOSIS NO.: 000073073047
ISOLATION OF TISSUE PLASMINOGEN ACTIVATOR FROM SKIN LESIONS
WITH ALLERGIC VASCULITIS
AUTHOR: TOKI N; TSUSHIMA H; YAMASAKI M; YAMASAKI R; YAMURA T
AUTHOR ADDRESS: DEP. OF DERMATOLOGY, HIROSHIMA UNIV. SCH. OF MED., KASUMI
1-2-3, HIROSHIMA-734, JAPAN.
JOURNAL: J INVEST DERMATOL 78 (1). 1982. 18-23. 1982
FULL JOURNAL NAME: Journal of Investigative Dermatology
CODEN: JIDEA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A tissue plasminogen activator was extracted from human skin lesions with allergic vasculitis and purified by successive column chromatography on Sephadex G-200, DEAE-cellulose, Hydroxyapatite-cellulose and polyacrylamide gel electrophoresis. By these procedures, 160 .mu.g of enzyme with a specific activity of 843.8 IU/mg protein was obtained from 5 g of original skin. The purified material was homogeneous as ascertained by sodium dodecyl sulfate polyacrylamide gel electrophoresis and had an apparent MW of 110,000 as measured by gel filtration on Sephadex G-200. Its identity with human urokinase was investigated and was found to possess the same plasminogen activator activity as that of urokinase. It had high amidolytic activity, but only slight N-.alpha.-acetyl-glycyl-L-lysine methyl ester estrolytic activity. This tissue plasminogen activator was confirmed to be immunologically identical to human urokinase.

DESCRIPTORS: HUMAN N-ALPHA ACETYLGLYCYL-L LYSINE METHYL ESTER
CHROMATOGRAPHY GEL ELECTROPHORESIS GEL FILTRATION URO KINASE MOLECULAR WEIGHT

CONCEPT CODES:

10808 Enzymes-Physiological Studies
12508 Pathology, General and Miscellaneous-Inflammation and Inflammatory Disease
14508 Cardiovascular System-Blood Vessel Pathology
18506 Integumentary System-Pathology
35500 Allergy
01056 Microscopy Techniques-Histology and Histochemistry
10050 Biochemical Methods-General
10054 Biochemical Methods-Proteins, Peptides and Amino Acids
10060 Biochemical Studies-General
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10504 Biophysics-General Biophysical Techniques
10506 Biophysics-Molecular Properties and Macromolecules
10804 Enzymes-Methods
12100 Movement (1971-)
15504 Urinary System and External Secretions-Physiology and Biochemistry

BIOSYSTEMATIC CODES:

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Animals
Chordates
Vertebrates
Mammals
Primates
Humans

7/9/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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03307838 BIOSIS NO.: 000072035942
ISOLATION AND PROPERTIES OF HUMAN VASCULAR PLASMINOGEN
ACTIVATOR

AUTHOR: ALLEN R A; PEPPER D S
AUTHOR ADDRESS: SCOTTISH NATIONAL BLOOD TRANSFUSION SERVICE, HEADQUARTERS
UNIT LAB., 2 FORREST ROAD, EDINBURGH EH1 2QN, SCOTLAND.
JOURNAL: THROMB HAEMOSTASIS 45 (1). 1981. 43-50. 1981
FULL JOURNAL NAME: Thrombosis and Haemostasis
CODEN: THHAD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Improved methods for the isolation of human cadaveric endothelial vascular plasminogen activator [VPA] were developed. The enzyme was isolated as the native complex with soluble fibrin by a combination of polyethylene glycol precipitation and hydroxyapatite chromatography. The purified complex was then finally dissociated by affinity chromatography on lysine agarose. The dissociated enzyme was relatively unstable when bioassayed on fibrin plates; its activity against low MW chromogenic substrates was more stable. The enzymic activity was totally inhibited by DFP [diisopropylfluorophosphate], PMSF [phenylmethylsulfonylfluoride] or DTT [dithiothreitol] and was totally resistant to iodoacetamide or Trasylol, indicating that it was a serine protease but differing in certain respects from urokinase. The specific activity of the native enzyme is .gtoreq. 50,000 CTA U/mg protein, it has a MW of 56,600 and will reform biologically active complexes with soluble fibrin polymers prepared in vitro. Both SFP [soluble fibrin polymer] and various polylysine preparations stimulated the activation of plasminogen by VPA in a spectrophotometric assay based on the rate of plasmin generation assayed against the chromogenic substrate S-2251. Considerable loss of material from purified preparations occurs by adsorption. With the limited amount of material available from cadavers, a radioisotopic labeling method was sought using iodination or 3H-DFP labeling; neither approach was satisfactory. Comparison of VPA activity in cadaveric eluates and in venous occlusion plasma or following infusion of vasopressin analogs showed that all 3 activities behaved identically in the above purification steps. The affinity of VPA for insoluble fibrin was much higher than that of urokinase, or a human melanoma activator from tissue culture.

DESCRIPTORS: URO KINASE VASOPRESSIN TISSUE CULTURE HUMAN MELANOMA ACTIVATOR
CONCEPT CODES:

10806 Enzymes-Chemical and Physical
14504 Cardiovascular System-Physiology and Biochemistry
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph
Studies
24006 Neoplasms and Neoplastic Agents-Biochemistry
06504 Radiation-Radiation and Isotope Techniques
10064 Biochemical Studies-Proteins, Peptides and Amino Acids
10504 Biophysics-General Biophysical Techniques
10804 Enzymes-Methods
12100 Movement (1971-)
12510 Pathology, General and Miscellaneous-Necrosis (1971-)
17004 Endocrine System-Adrenals
17020 Endocrine System-Neuroendocrinology (1972-)
24005 Neoplasms and Neoplastic Agents-Neoplastic Cell Lines
32500 Tissue Culture, Apparatus, Methods and Media

32600 In Vitro Studies, Cellular and Subcellular

BIOSYSTEMATIC CODES:

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Animals

Chordates

Vertebrates

Mammals

Primates

Humans

7/9/5 (Item 5 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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03036729 BIOSIS NO.: 000070062347

PLASMINOGEN ACTIVATOR FROM PIG KIDNEY CELL CULTURES 3.

PURIFICATION AND CHARACTERIZATION

AUTHOR: BOBBITT J L; CLAVIN S A; HUTCHINS J F; ARNETT G C; HULL R N

AUTHOR ADDRESS: LILLY RES. LAB., INDIANAPOLIS, INDIANA 46206, USA.

JOURNAL: THROMB RES 18 (3-4). 1980. 315-332. 1980

FULL JOURNAL NAME: Thrombosis Research

CODEN: THBRA

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Plasminogen activator in spent tissue culture medium from a continuous line of pig kidney cells was purified on a 25 l scale by combined adsorption on hydroxyapatite, ammonium sulfate precipitation, DEAE-cellulose and CM-cellulose chromatography and gel filtration. The final product had a specific activity of 70,000-120,000 units/mg and consisted of numerous immunologically similar species of different size and charge. Two major fractions were obtained by gel filtration. The principal fraction included enzymes of MW > 45,000. The other fraction included 30,000 and 24,000 dalton forms. The large forms could be degraded to smaller forms. The isoelectric points of the different species were in the range pH 6.8-7.2. Active site titrations gave 1.4 +/- 0.1 times. 1013 units/mol. The enzyme was similar to, but not identical with, human urokinase in specificity, inhibitor sensitivity and fibrinolytic activity. The 2 enzymes were immunologically different.

DESCRIPTORS: HUMAN URO KINASE FIBRINOLYSIS

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal

10806 Enzymes-Chemical and Physical

10808 Enzymes-Physiological Studies

15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies

15504 Urinary System and External Secretions-Physiology and Biochemistry

32500 Tissue Culture, Apparatus, Methods and Media

10010 Comparative Biochemistry, General

10054 Biochemical Methods-Proteins, Peptides and Amino Acids

10060 Biochemical Studies-General

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

10068 Biochemical Studies-Carbohydrates

10069 Biochemical Studies-Minerals

10502 Biophysics-General Biophysical Studies

10504 Biophysics-General Biophysical Techniques

10506 Biophysics-Molecular Properties and Macromolecules

10802 Enzymes-General and Comparative Studies; Coenzymes

12100 Movement (1971-)

13012 Metabolism-Proteins, Peptides and Amino Acids

32600 In Vitro Studies, Cellular and Subcellular

34502 Immunology and Immunochemistry-General; Methods

BIOSYSTEMATIC CODES:

85740 Suidae

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

7/9/8 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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06594799 Genuine Article#: ZD282 Number of References: 44
Title: Proteolysis of insulin-like growth factor binding proteins by a
novel 50-kilodalton metalloproteinase in human pregnancy serum
Author(s): Kubler B; Cowell S; Zapf J; Bräulke T (REPRINT)
Corporate Source: UNIV GÖTTINGEN, INST BIOCHEM 2, GOSSLERSTR 12 D/D-37073
GÖTTINGEN//GERMANY/ (REPRINT); UNIV GÖTTINGEN, INST BIOCHEM 2/D-37073
GÖTTINGEN//GERMANY/; STRANGWAYS RES LAB, CAMBRIDGE CB1 4RN//ENGLAND/;
UNIV ZÜRICH HOSP, DEPT MED, METAB UNIT/CH-8091 ZÜRICH//SWITZERLAND/
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Journal Subject Category: ENDOCRINOLOGY & METABOLISM

Abstract: Insulin-like growth factor binding proteins (IGFBP) proteases have been proposed to be involved in changes of serum IGFBP pattern during pregnancy. IGFBP-4 and -5 are degraded specifically by proteases in pregnancy serum in vitro, whereas IGFBP-3 proteolytic activity was also detected in nonpregnancy serum. To identify and characterize IGFBP proteases, human pregnancy serum was fractionated by size exclusion chromatography revealing IGFBP-4 protease activities in fractions coeluting with proteins of approximately 600-kDa and 50- to 100-kDa molecular mass. In both fractions, a predominant 50-kDa gelatinase was found, suggesting that parts of the gelatinase activity might aggregate or are complexed with other proteins forming a higher molecular complex. Hydroxyapatite chromatography and chromatofocusing of the 50- to 100-kDa serum fraction showed that the IGFBP-4 protease and the 50-kDa gelatinase activity were copurified. When the 50-kDa gelatinase-containing band was excised from the polyacrylamide gel, it exhibited IGFBP-4 proteolytic activity, resulting in the formation of 17- and 10-kDa fragments. [1-125] IGFBP substrate zymography combined with fragment blotting showed that the 1,10-phenanthroline-sensitive 50-kDa protease activity purified by chromatofocusing also cleaved IGFBP-3 and -5. Other proteases detected in pregnancy serum fractions with M_r estimates of 79-, 30-, and 22-kDa degraded IGFBP-3 and -5 but not IGFBP-4. [1-125] IGFBP-5 Substrate zymography revealed that the 30-kDa IGFBP protease was inhibited by serine protease inhibitors. Whereas 1,10-phenanthroline inhibited the IGFBP proteolytic activity in the solution assay, serine protease inhibitors failed to affect proteolysis, indicating the predominant contribution of the metalloproteinase to IGFBP proteolysis. Tissue inhibitors of matrix metalloproteinases-1 and -2 revealed weak or no inhibition of IGFBP-4 and -5 proteolytic activity, whereas a hydroxamic acid-based inhibitor, potentially inhibiting disintegrin metalloproteinases, completely prevented the proteolysis of IGFBPs. Whereas no specific immunoreactivity of the 50-kDa protein with antimatrix metalloproteinase-1, -2, -3, -9, or -13 antibodies was observed, antidisintegrin domain-specific antibodies bound to the 50-kDa gelatinase.

These studies provide the first direct biochemical evidence that human pregnancy serum contains a 50-kDa IGFBP protease with properties of a soluble disintegrin metalloproteinase that appears to be potentially involved in regulating IGF bioavailability for placental and fetal growth.

Identifiers--KeyWord Plus(R): C-TERMINAL DOMAIN; I IGF-I; MATRIX METALLOPROTEINASES; GELATINASE-A; PLASMINOGEN ACTIVATORS; HUMAN FIBROBLASTS; RAT PREGNANCY; COMPLEX; INHIBITORS; PROTEASE

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7/9/9 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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06258010 Genuine Article#: YE823 Number of References: 47

Title: Purification and characterization of a 39,000-Da serine
 proteinase from the hemolymph of a solitary ascidian, *Halocynthia*
roretzi

Author(s): Shishikura F (REPRINT) ; Abe T; Ohtake SI; Tanaka K

Corporate Source: NIHON UNIV, SCH MED, DEPT BIOL, ITABASHI KU, 30-1

OHYAGUCHI KAMIMACHI/TOKYO 173/JAPAN/ (REPRINT)

Journal: COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR
BIOLOGY , 1997, V118, N1 (SEP), P131-141

ISSN: 0305-0491 Publication date: 19970900

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE,
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Language: English Document Type: ARTICLE

Geographic Location: JAPAN

Subfile: CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

Abstract: A new endogenous serine proteinase from the cell-free hemolymph
 of a solitary ascidian, *Halocynthia roretzi*, was purified by a
 combination of ammonium sulfate fractionation, hydrophobic interaction
 chromatography on TSKgel Toyopearl HW 65 F, ion exchange chromatography
 on TSKgel DEAE-Toyopearl 650 M, affinity chromatography on
 Arginine-Sepharose 4B, gel filtration on TSKgel Toyopearl HW 65F and

hydroxyapatite chromatography on Bio-Gel HT. The serine proteinase is a single polypeptide chain whose molecular weight and isoelectric point are 39 kDa and about 7.6 pI, respectively. The most susceptible substrate was Boc-Leu-Gly-Arg-4-methyl-coumaryl-7-amide (MCA), and activity was optimal at pH 8. The enzyme was relatively stable at high temperatures; about 50% activity was retained even at 60 degrees C for 30 min in 50 mM Tris-HCl, pH 8.0, containing 0.5 M NaCl, and 0.05% Brij-35. The enzyme was characterized by the inhibitory effects of synthetic or natural inhibitors, substrate specificity toward 26 peptidyl-MCAs, proteinase activity toward natural proteins and complex formation with a serine proteinase inhibitor (58 kDa) previously found in *H. roretzi* hemolymph, indicating that the enzyme was a member of serine proteinases and strongly inhibited by the 58 kDa serine proteinase inhibitor as well as human antithrombin III. We also demonstrated the clotting enzyme activity of the purified serine proteinase toward bovine fibrinogen and *Limulus* coagulogen, a fibrinogen-like clottable protein of horseshoe crabs. (C) 1997 Elsevier Science Inc.

Descriptors--Author Keywords: Ascidian ; fibrinogen ; fluorogenic substrates ; *Halocynthia roretzi* ; hemolymph *Limulus* coagulogen ; serine proteinase ; serpin

Identifiers--KeyWord Plus(R): GALACTOSE-SPECIFIC LECTIN; POLYACRYLAMIDE GELS; DETECTING PROTEINS; SILVER STAIN; HEMOCYTES; INHIBITORS; HEMAGGLUTININ; PEPTIDASES; BINDING

Research Fronts: 95-3190 002 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)

95-2948 001 (PROTEASE INHIBITORS; INTERACTIONS OF SERINE PROTEINASES; PLASMA KALLIKREIN; PHAGE DISPLAY)

95-6938 001 (PLASMINOGEN-ACTIVATOR INHIBITOR-1; SERPIN REACTIVE LOOP; IDENTIFICATION OF PIGMENT EPITHELIUM-DERIVED FACTOR; SERINE PROTEINASES; CLEAVED FORM)

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Journal Subject Category: RHEUMATOLOGY

Research Fronts: 86-0192 001 (TUMOR NECROSIS FACTOR; CHARACTERIZATION OF
HIGH-AFFINITY MEMBRANE-RECEPTORS; INTERFERON-GAMMA ENHANCES EXPRESSION
OF CELLULAR RECEPTORS)
86-1365 001 (PURIFIED RECOMBINANT MURINE INTERLEUKIN-1; CULTURED
HUMAN-ENDOTHELIAL CELLS; INVIVO MODEL OF T CELL-DEPENDENT FIBROSIS)
86-1621 001 (ISOTRETINOIN TERATOGENICITY; CRYSTAL DEPOSITION DISEASE;
ETRETINATE THERAPY; FREE FATTY-ACIDS; ROTATOR CUFF)
86-6545 001 (MACROPHAGE ACTIVATION; GUINEA-PIG MACROPHAGES; MURINE
PERITONEAL-MACROPHAGES; HUMAN-MONOCYTES TUMORICIDAL ACTIVITY; BACTERIAL
LIPOPOLYSACCHARIDE)
86-8399 001 (PLASMINOGEN ACTIVATORS; SECRETED PLASMINOGEN
-ACTIVATOR; INVITRO STIMULATION OF RAT SERTOLI CELLS; PLASMA PROTEINASE
ACTIVITY)

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WOOD DD, 1983, V26, P975, ARTHRITIS RHEUM

? ds

Set	Items	Description
S1	78554	(KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN
S2	2713819	PURIF? OR ISOLAT? OR SEPARAT?
S3	61	"EXPANDED BED"
S4	19678	HYDROXYAPATITE
S5	2	S3 AND S4
S6	9953	S2 AND S1
S7	15	S6 AND S4
? s	pastoris	
S8	4850	PASTORIS
? s	s1 and s8	
	78554	S1
	4850	S8
S9	102	S1 AND S8

? s s9 and s2
102 S9
2713819 S2
S10 50 S9 AND S2
? s py<=1999
Processing
Processing
Processing
Processing
S1131531237 PY<=1999
? s s11 and s10
31531237 S11
50 S10
S12 34 S11 AND S10
? type s12/free/all

12/8/1 (Item 1 from file: 5)
12101266 BIOSIS NO.: 199900396115
Enhancement through mutagenesis of the binding of the isolated
kringle 2 domain of human plasminogen to omega-amino acid
ligands and to an internal sequence of a Streptococcal surface protein.
1999

12/8/2 (Item 2 from file: 5)
11661312 BIOSIS NO.: 199800443043
A refined kinetic analysis of plasminogen activation by recombinant
bovine tissue-type plasminogen activator indicates two
interconvertible activator forms.
1998

12/8/3 (Item 3 from file: 5)
11306780 BIOSIS NO.: 199800088112
Binding of urokinase-type plasminogen activator-plasminogen
activator inhibitor-1 complex to the endocytosis receptors
alpha2-macroglobulin receptor/low-density lipoprotein receptor-related
protein and very-low-density lipoprotein receptor involves basic residues
in the inhibitor.
1998

12/8/4 (Item 4 from file: 5)
11191915 BIOSIS NO.: 199799813060
Characterization of the acidic oligosaccharides assembled on the Pichia
pastoris-expressed recombinant kringle 2 domain of human
tissue-type plasminogen activator.
1997

12/8/5 (Item 5 from file: 5)
11018193 BIOSIS NO.: 199799639338
Role of tryptophan-63 of the Kringle 2 domain of tissue-type
plasminogen activator in its thermal stability, folding, and ligand
binding properties.
1997

12/8/6 (Item 6 from file: 5)
10787398 BIOSIS NO.: 199799408543
High-level secretion in Pichia pastoris and biochemical
characterization of the recombinant kringle 2 domain of tissue-type
plasminogen activator.
1997

12/8/7 (Item 7 from file: 5)
10668170 BIOSIS NO.: 199799289315
Secretory production of recombinant urokinase-type plasminogen
activator-annexin V chimeras in Pichia pastoris.



1996

12/8/8 (Item 8 from file: 5)
10440061 BIOSIS NO.: 199699061206
Secretion of a variant of human single-chain urokinase-type plasminogen activator without an N-glycosylation site in the methylotrophic yeast, *Pichia pastoris* and characterization of the secreted product.
1996

12/8/9 (Item 9 from file: 5)
10059546 BIOSIS NO.: 199598514464
Production and characterization of recombinant human proteinase inhibitor 6 expressed in *Pichia pastoris*.
1995

12/8/10 (Item 1 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.
08281310 Genuine Article#: 265WL Number of References: 61
Title: Glycosylation of *Pichia pastoris*-derived proteins (ABSTRACT AVAILABLE)
Publication date: 19991200
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY & APPLIED MICROBIOLOGY
Identifiers--KeyWord Plus(R): RECOMBINANT KRINGLE-2 DOMAIN; ACID ALPHA-MANNOSIDASE; HIGH-LEVEL EXPRESSION; METHYLOTROPHIC YEAST; PLASMINOGEN-ACTIVATOR; SACCHAROMYCES-CEREVISIAE; SECRETION; PURIFICATION; ENZYME; OLIGOSACCHARIDES

12/8/11 (Item 2 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.
08022193 Genuine Article#: 237PG Number of References: 136
Title: The yeast expression system for recombinant glycosyltransferases (ABSTRACT AVAILABLE)
Publication date: 19990200
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Descriptors--Author Keywords: *saccharomyces cerevisiae*; *Pichia pastoris*; beta 1,4galactosyltransferase; alpha 2,6sialyltransferase; alpha 2,3sialyltransferase; alpha 1,3fucosyltransferase; alpha 1,2mannosyltransferase; glycosylation engineering
Identifiers--KeyWord Plus(R): HIGH-LEVEL EXPRESSION; HUMAN BETA-1,4 GALACTOSYLTRANSFERASE; TISSUE PLASMINOGEN-ACTIVATOR; FUCOSYL-TRANSFERASE GENES; SACCHAROMYCES-CEREVISIAE; PICHIA-PASTORIS; METHYLOTROPHIC YEAST; HUMAN BETA-1,4-GALACTOSYLTRANSFERASE; N-ACETYLGLUCOSAMINE; ENZYMATIC-SYNTHESIS

12/8/12 (Item 3 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.
07916761 Genuine Article#: 223YD Number of References: 55
Title: Enhancement through mutagenesis of the binding of the isolated Kringle 2 domain of human plasminogen to omega-amino acid ligands and to an internal sequence of a Streptococcal surface protein (ABSTRACT AVAILABLE)
Publication date: 19990806
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Identifiers--KeyWord Plus(R): EPSILON-AMINOHEXANOIC ACID; HIGH-AFFINITY BINDING; RECOMBINANT KRINGLE-1; PICHIA-PASTORIS; THERMAL-STABILITY; ACTIVATOR INHIBITOR-1; AMINOCAPROIC ACID; ESCHERICHIA-COLI; SITE; EXPRESSION

12/8/13 (Item 4 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

07681975 Genuine Article#: 196AV Number of References: 16
Title: Disruption of the KEX1 gene in *Pichia pastoris* allows
expression of full-length murine and human endostatin (ABSTRACT
AVAILABLE)
Publication date: 19990500
Journal Subject Category: MICROBIOLOGY; BIOTECHNOLOGY & APPLIED
MICROBIOLOGY; MYCOLOGY; BIOCHEMISTRY & MOLECULAR BIOLOGY
Descriptors--Author Keywords: *Pichia pastoris* ; KEX1 disruption ;
endostatin
Identifiers--KeyWord Plus(R): HIGH-LEVEL SECRETION;
SACCHAROMYCES-CEREVISIAE; YEAST; CARBOXYPEPTIDASE; ANGIOGENESIS;
ANGIOSTATIN; INHIBITOR; GROWTH

12/8/14 (Item 5 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

07230495 Genuine Article#: 139FC Number of References: 13
Title: Zinc-binding of endostatin is essential for its antiangiogenic
activity (ABSTRACT AVAILABLE)
Publication date: 19981109
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS
Identifiers--KeyWord Plus(R): HUMAN GROWTH-HORMONE; ANGIOGENESIS;
ANGIOSTATIN; INHIBITOR; PROTEINS; ENZYMES

12/8/15 (Item 6 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

06326083 Genuine Article#: YJ709 Number of References: 64
Title: Expression, purification and inhibitory properties of human
proteinase inhibitor 8 (ABSTRACT AVAILABLE)
Publication date: 19971202
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Identifiers--KeyWord Plus(R): CELL CARCINOMA ANTIGEN; REACTIVE-BOND LOOP;
SIGNAL SEQUENCE; ALPHA-1-PROTEINASE INHIBITOR; KINETIC
CHARACTERIZATION; NEUTROPHIL ELASTASE; TARGET PROTEINASES; SUBSTRATE
REACTION; CHICKEN OVALBUMIN; MOLECULAR-CLONING
Research Fronts: 95-6938 002 (PLASMINOGEN-ACTIVATOR INHIBITOR-1;
SERPIN REACTIVE LOOP; IDENTIFICATION OF PIGMENT EPITHELIUM-DERIVED
FACTOR; SERINE PROTEINASES; CLEAVED FORM)
95-2948 001 (PROTEASE INHIBITORS; INTERACTIONS OF SERINE PROTEINASES;
PLASMA KALLIKREIN; PHAGE DISPLAY)
95-3190 001 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE
PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)
95-4110 001 (INHIBITION OF TRYPSIN; SERINE PROTEINASES; IMMOBILIZED
CHYMOTRYPSIN IN ORGANIC MEDIA)
95-8683 001 (IRREVERSIBLE INHIBITORS OF CYSTEINE PROTEINASES; ENZYME
DENATURATION; ISOCITRATE LYASE)

12/8/16 (Item 7 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

06203619 Genuine Article#: YB472 Number of References: 15
Title: Characterization of the acidic oligosaccharides assembled on the
Pichia pastoris-expressed recombinant kringle 2 domain of
human tissue-type plasminogen activator (ABSTRACT AVAILABLE)
Publication date: 19971000
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY &
APPLIED MICROBIOLOGY
Identifiers--KeyWord Plus(R): N-LINKED OLIGOSACCHARIDES;
SACCHAROMYCES-CEREVISIAE; METHYLOTROPHIC YEAST; BIOSYNTHESIS; MUTANTS;
MANNAN

12/8/17 (Item 8 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

05976571 Genuine Article#: XL512 Number of References: 25
Title: The amino-terminal region of amyloid precursor protein is responsible for neurite outgrowth in rat neocortical explant culture (ABSTRACT AVAILABLE)
Publication date: 19970709
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS
Identifiers--KeyWord Plus(R): ALZHEIMERS-DISEASE; PICHIA-PASTORIS; SECRETED FORMS; CELL-SURFACE; BRAIN; PEPTIDES; LOCALIZATION; PURIFICATION; PLASMINOGEN; EXPRESSION
Research Fronts: 95-1202 004 (ALZHEIMERS-DISEASE BETA-A4 AMYLOID PRECURSOR PROTEIN; PROCESSING PATHWAY; AMINO-TERMINAL DELETIONS ENHANCE AGGREGATION)

12/8/18 (Item 9 from file: 34)
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

05925013 Genuine Article#: XG901 Number of References: 73
Title: Role of tryptophan-63 of the kringle 2 domain of tissue-type plasminogen activator in its thermal stability, folding, and ligand binding properties (ABSTRACT AVAILABLE)
Publication date: 19970624
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY
Identifiers--KeyWord Plus(R): AMINO ACID LIGANDS; RECOMBINANT KRINGLE -1; ESCHERICHIA-COLI; HUMAN APOLIPOPROTEIN(A); EXPRESSION; PURIFICATION; SITE; FIBRIN; IDENTIFICATION; PLASMA
Research Fronts: 95-2098 003 (LIPOYL DOMAIN; 3-DIMENSIONAL NMR; PEPTIDE FOLD; PROTON NUCLEAR-MAGNETIC-RESONANCE SPECTROSCOPY; FUSION PROTEIN; PYRUVATE-DEHYDROGENASE COMPLEX)
95-1231 001 (PLASMA LIPOPROTEIN(A) LEVELS; APOLIPOPROTEIN(A) GENE; CORONARY ATHEROSCLEROSIS)
95-4462 001 (TISSUE-TYPE PLASMINOGEN-ACTIVATOR; PROTEASE INHIBITORS IN STAPHYLOKINASE-INDUCED FIBRIN-SPECIFIC FIBRINOLYSIS; TYPICAL EXAMPLE OF DOMAIN EVOLUTION)

12/8/19 (Item 10 from file: 34)
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05543841 Genuine Article#: WF463 Number of References: 48
Title: High-level secretion in Pichia pastoris and biochemical characterization of the recombinant kringle 2 domain of tissue-type plasminogen activator (ABSTRACT AVAILABLE)
Publication date: 19970200
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY & APPLIED MICROBIOLOGY
Identifiers--KeyWord Plus(R): OMEGA-AMINO ACIDS; HUMAN <GLU1> PLASMINOGEN; NATIVE PLASMINOGEN; BINDING-PROPERTIES; THERMAL-STABILITY; N-GLYCOSYLATION; EXPRESSION; FIBRIN; SITE; PURIFICATION
Research Fronts: 95-1231 001 (PLASMA LIPOPROTEIN(A) LEVELS; APOLIPOPROTEIN(A) GENE; CORONARY ATHEROSCLEROSIS)
95-3098 001 (HEPATOCYTE GROWTH-FACTOR; CMET RECEPTOR EXPRESSION IN THE PROMYELOCYTIC HL-60 CELL-LINE; HETEROZYGOSITY OF C-MET PROTOONCOGENE)
95-3190 001 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)
95-4462 001 (TISSUE-TYPE PLASMINOGEN-ACTIVATOR; PROTEASE INHIBITORS IN STAPHYLOKINASE-INDUCED FIBRIN-SPECIFIC FIBRINOLYSIS; TYPICAL EXAMPLE OF DOMAIN EVOLUTION)

12/8/20 (Item 11 from file: 34)
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05346256 Genuine Article#: VR644 Number of References: 33
Title: SECRETORY PRODUCTION OF RECOMBINANT UROKINASE-TYPE PLASMINOGEN ACTIVATOR-ANNEXIN V-CHIMERAS IN PICHIA-PASTORIS (Abstract

Available)

Journal Subject Category: GENETICS & HEREDITY

Descriptors--Author Keywords: METHYLOTROPHIC YEAST ; THROMBOLYTIC AGENT ;
FUSION PROTEIN ; HYBRID PROTEIN ; CHIMERIC PROTEIN ; SECRETORY
EXPRESSION

Identifiers--KeyWords Plus: PLACENTAL ANTICOAGULANT PROTEIN; POLY ACRYLAMIDE
GELS; EXPRESSION; CLONING; GENE; CDNA; PROUROKINASE; EXPOSURE; BINDING

Research Fronts: 94-3070 002 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL
REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)

94-4806 001 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT;
TRANSCRIPTION FACTOR)

12/8/21 (Item 12 from file: 34)

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05212772 Genuine Article#: VJ203 Number of References: 33

Title: THE 5TH EPIDERMAL GROWTH-FACTOR-LIKE DOMAIN OF THROMBOMODULIN DOES
NOT HAVE AN EPIDERMAL GROWTH-FACTOR-LIKE DISULFIDE BONDING PATTERN (
Abstract Available)

Journal Subject Category: MULTIDISCIPLINARY SCIENCES

Descriptors--Author Keywords: PROTEIN C ; THROMBIN ; PICHIA PASTORIS
; YEAST EXPRESSION ; TRIS(2-CARBOXYETHYL)PHOSPHINE

Identifiers--KeyWords Plus: EGF-LIKE DOMAIN; PLASMINOGEN-ACTIVATOR;
ENERGY MINIMIZATION; NMR-SPECTROSCOPY; FACTOR PRECURSOR; FACTOR-ALPHA;
FACTOR-IX; FACTOR-X; COAGULATION; RESOLUTION

12/8/22 (Item 13 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04873563 Genuine Article#: UN557 Number of References: 32

Title: PRODUCTION AND PURIFICATION OF HUMAN FIBROBLAST COLLAGENASE
(MMP-1) EXPRESSED IN THE METHYLOTROPHIC YEAST PICHIA-PASTORIS (
Abstract Available)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOMETHODS

Identifiers--KeyWords Plus: ALCOHOL OXIDASE GENES; MATRIX

METALLOPROTEINASES; SECONDARY STRUCTURE; CATALYTIC DOMAIN; CYSTEINE
SWITCH; STROMELYSIN; PROCOLLAGENASE; SPECIFICITY; ACTIVATION; SECRETION

Research Fronts: 94-0971 004 (MATRIX METALLOPROTEINASE EXPRESSION; TISSUE
INHIBITOR; 92-KD TYPE-IV COLLAGENASE ACTIVITY; CULTURED VASCULAR
SMOOTH-MUSCLE CELLS; PLASMINOGEN ACTIVATION)

12/8/23 (Item 14 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04861561 Genuine Article#: UN062 Number of References: 48

Title: SECRETION OF A VARIANT OF HUMAN SINGLE-CHAIN UROKINASE-TYPE
PLASMINOGEN-ACTIVATOR WITHOUT AN N-GLYCOSYLATION SITE IN THE
METHYLOTROPHIC YEAST, PICHIA-PASTORIS AND CHARACTERIZATION OF THE
SECRETED PRODUCT (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY;
BIOCHEMISTRY & MOLECULAR BIOLOGY

Descriptors--Author Keywords: PICHIA PASTORIS ; SINGLE-CHAIN
UROKINASE-TYPE PLASMINOGEN ACTIVATOR ; MUCOR RENIN PREPEPTIDE ;
PROTEOLYSIS ; SECRETION

Identifiers--KeyWords Plus: HIGH-LEVEL EXPRESSION;
SACCHAROMYCES-CEREVISIAE; PRO-UROKINASE; HUMAN PREPROUROKINASE; SIGNAL
SEQUENCE; MUCOR-PUSILLUS; GROWTH-FACTOR; GENE; PROTEINS; INVERTASE

Research Fronts: 94-3070 002 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL
REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)

94-4806 001 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT;
TRANSCRIPTION FACTOR)

12/8/24 (Item 15 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04361766 Genuine Article#: RY470 Number of References: 23

Title: PRODUCTION AND CHARACTERIZATION OF RECOMBINANT HUMAN
PROTEINASE-INHIBITOR-6 EXPRESSED IN PICHIA-PASTORIS (Abstract
Available)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS
Descriptors--Author Keywords: PROTEINASE INHIBITOR 6 ; PLACENTAL THROMBIN
INHIBITOR ; SERINE PROTEINASE INHIBITOR ; SERPIN ; GENE EXPRESSION ;
(P-PASTORIS)

Identifiers--KeyWords Plus: SITE

Research Fronts: 93-3088 001 (RAT MUSCLE; PROTEIN PHOSPHATASE-1; MAJOR
GLUTATHIONE TRANSFERASE)

93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING
METHYLMALONYL-COENZYME-A MUTASE)

12/8/25 (Item 16 from file: 34)

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04212237 Genuine Article#: RN594 Number of References: 30

Title: EXPRESSION, PURIFICATION, AND NEUROTROPHIC ACTIVITY OF AMYLOID
PRECURSOR PROTEIN-SECRETED FORMS PRODUCED BY YEAST (Abstract Available
)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS

Identifiers--KeyWords Plus: ENHANCES NEURITE OUTGROWTH; ALZHEIMERS-DISEASE;
INHIBITOR DOMAIN; EXPLANT CULTURES; PICHIA-PASTORIS; RAT-BRAIN;
NEXIN-II; BETA; LOCALIZATION; PLASMINOGEN

Research Fronts: 93-0099 008 (BETA-AMYLOID PRECURSOR PROTEIN; FAMILIAL
ALZHEIMERS-DISEASE; PC12 CELLS RELEASE STIMULATORY FACTORS)

12/8/26 (Item 17 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

00085150 Genuine Article#: CL615 Number of References: 30

Title: EXPRESSION OF HUMAN PLASMINOGEN-ACTIVATOR INHIBITOR TYPE-1
(PAI-1) IN ESCHERICHIA-COLI AS A SOLUBLE-PROTEIN COMPRISED OF ACTIVE
AND LATENT FORMS - ISOLATION AND CRYSTALLIZATION OF LATENT PAI-1

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS

Research Fronts: 88-2115 003 (ALPHA-1-ANTITRYPSIN DEFICIENCY; ELASTASE
INHIBITOR; HIGH-RESOLUTION CT; LUNG EMPHYSEMA)

88-3343 002 (PLASMINOGEN-ACTIVATOR INHIBITOR; FIBRIN-SPECIFIC
THROMBOLYTIC AGENTS; IMPAIRED FIBRINOLYSIS IN CORONARY-ARTERY DISEASE)

88-1470 001 (AMINO-ACID SEQUENCE; AVIAN LYMPHOMATOSIS VIRUS; ATP
SYNTHASE; MULTIGENE FAMILY; MITOCHONDRIAL TRANSCRIPTION)

88-7331 001 (RECOMBINANT ESCHERICHIA-COLI; HIGH-LEVEL EXPRESSION;
HETEROLOGOUS PROTEINS IN METHYLOTROPHIC YEAST PICHIA-PASTORIS)

12/8/27 (Item 1 from file: 71)

01366267 2000040784

Construction, cloning and expression of cystein enriched human
microurokinase

12/8/28 (Item 2 from file: 71)

01210561 1999185218

Enhancement through mutagenesis of the binding of the isolated
kringle 2 domain of human plasminogen to omega-amino acid
ligands and to an internal sequence of a Streptococcal surface protein

PUBLICATION DATE: August 6, 1999

12/8/29 (Item 3 from file: 71)

00779708 1998010609

Binding of urokinase-type plasminogen activator-plasminogen
activator inhibitor-1 complex to the endocytosis receptors alphainf
2-macroglobulin receptor/low-density lipoprotein receptor-related protein
and very-low-density lipoprotein receptor involves basic residues in the
inhibitor

PUBLICATION DATE: January 1, 1998

12/8/30 (Item 4 from file: 71)
 00722169 97227529
 Characterization of the acidic oligosaccharides assembled on the Pichia
 pastoris-expressed recombinant kringle 2 domain of human
 tissue-type plasminogen activator
 PUBLICATION DATE: 19970000

12/8/31 (Item 5 from file: 71)
 00644279 97151041
 Role of tryptophan-63 of the kringle 2 domain of tissue-type
 plasminogen activator in its thermal stability, folding, and ligand
 binding properties
 PUBLICATION DATE: 19970000

12/8/32 (Item 6 from file: 71)
 00545300 97045376
 High-level secretion in Pichia pastoris and biochemical
 characterization of the recombinant kringle 2 domain of tissue-type
 plasminogen activator
 PUBLICATION DATE: 19970000

12/8/33 (Item 7 from file: 71)
 00471867 96165822
 Secretory production of recombinant urokinase-type plasminogen
 activator-annexin V chimeras in Pichia pastoris
 PUBLICATION DATE: 19960000

12/8/34 (Item 8 from file: 71)
 00311154 95130739
 Production and characterization of recombinant human proteinase inhibitor 6
 expressed in Pichia pastoris
 PUBLICATION DATE: 19950000
 ? ds

Set	Items	Description
S1	78554	(KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN
S2	2713819	PURIF? OR ISOLAT? OR SEPARAT?
S3	61	"EXPANDED BED"
S4	19678	HYDROXYAPATITE
S5	2	S3 AND S4
S6	9953	S2 AND S1
S7	15	S6 AND S4
S8	4850	PASTORIS
S9	102	S1 AND S8
S10	50	S9 AND S2
S11	31531237	PY<=1999
S12	34	S11 AND S10
? s s3 and s2		
	61	S3
	2713819	S2
S13	34	S3 AND S2
? s s13 and s11		
	34	S13
	31531237	S11
S14	16	S13 AND S11
? type s14/free/all		

14/8/1 (Item 1 from file: 5)
 11824762 BIOSIS NO.: 199900070871
 Protein adsorption by very dense porous zirconium oxide particles in
 expanded beds.
 1998

14/8/2 (Item 1 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

08214563 Genuine Article#: 257WZ Number of References: 15

Title: Expanded bed adsorption on supermacroporous cross-linked cellulose matrix (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: column efficiency ; expanded bed ; lactate dehydrogenase ; macroporous adsorbent

Identifiers--KeyWord Plus(R): PERFUSION CHROMATOGRAPHY; PROTEIN SEPARATION; PARTICLES; PERFORMANCE; VELOCITY

14/8/3 (Item 2 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

08214553 Genuine Article#: 257WZ Number of References: 14

Title: Physical and biochemical characterization of a simple intermediate between fluidized and expanded bed contactors (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: expanded bed ; fluidized bed ; adsorption kinetics ; particulate feedstock ; protein adsorption

Identifiers--KeyWord Plus(R): PROTEINS; CHROMATOGRAPHY; PURIFICATION; AFFINITY

14/8/4 (Item 3 from file: 34)

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08214552 Genuine Article#: 257WZ Number of References: 18

Title: Factors affecting dispersion in expanded bed chromatography (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: dispersion ; expanded bed ; fluidized bed ; HETP ; residence time distribution

Identifiers--KeyWord Plus(R): ADSORPTION PERFORMANCE; OPERATING-CONDITIONS; PURIFICATION; BROTH

14/8/5 (Item 4 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

08184109 Genuine Article#: 255RL Number of References: 30

Title: Expanded bed protein A affinity chromatography of a recombinant humanized monoclonal antibody: process development, operation, and comparison with a packed bed method (ABSTRACT AVAILABLE)

Publication date: 19991008

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: recombinant antibody ; preparative chromatography ; expanded bed

Identifiers--KeyWord Plus(R): MAMMALIAN-CELL CULTURE; SCALE RECOVERY; FAST FLOW; ADSORPTION; PURIFICATION; BINDING; BROTH; YEAST; IGG1; IMMUNOGLOBULINS

14/8/6 (Item 5 from file: 34)

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07840603 Genuine Article#: 214AA Number of References: 23

Title: Direct purification of lysozyme from hen egg white using high density mixed mode adsorbent (ABSTRACT AVAILABLE)

Publication date: 19990600

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY; MICROBIOLOGY

Descriptors--Author Keywords: lysozyme ; hen egg white (HEW); mixed mode

adsorbent ; expanded bed

Identifiers--KeyWord Plus(R): EXPANDED-BED ADSORPTION; AMINO-ACID-SEQUENCE;
HIGH FLOW-RATE; PROTEIN-PURIFICATION; CHROMATOGRAPHY;
PRODUCTIVITY; SEPARATION; CONALBUMIN; RESOLUTION; COLUMN

14/8/7 (Item 6 from file: 34)

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07085749 Genuine Article#: 122TV Number of References: 35

Title: Expanded and packed bed albumin adsorption on fluoride modified
zirconia (ABSTRACT AVAILABLE)

Publication date: 19981105

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: fluoride-modified zirconia ; expanded bed
; packed bed ; protein adsorption ; adsorption-desorption kinetics ;
intraparticle diffusion

Identifiers--KeyWord Plus(R): GEL ANION-EXCHANGERS; PROTEIN ADSORPTION;
MASS-TRANSFER; EXPANSION CHARACTERISTICS; FLUIDIZED-BEDS; SCALE
RECOVERY; CHROMATOGRAPHY; PURIFICATION; PERFORMANCE; PARTICLES

14/8/8 (Item 7 from file: 34)

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06754553 Genuine Article#: ZP593 Number of References: 9

Title: Expanded-bed adsorption utilizing ion-exchange resin to purify
extracellular beta-galactosidase (ABSTRACT AVAILABLE)

Publication date: 19980300

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY;
BIOCHEMISTRY & MOLECULAR BIOLOGY

Descriptors--Author Keywords: extracellular beta-galactosidase ; adsorption
; expanded bed ; enzyme recovery

Identifiers--KeyWord Plus(R): PURIFICATION; RECOVERY; PROTEIN

14/8/9 (Item 8 from file: 34)

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05307693 Genuine Article#: VP550 Number of References: 15

Title: POLYMER-SHIELDED DYE-LIGAND CHROMATOGRAPHY OF LACTATE-DEHYDROGENASE
FROM PORCINE MUSCLE IN AN EXPANDED BED SYSTEM (Abstract Available)

Journal Subject Category: BIOMETHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: EXPANDED BED ; LDH PURIFICATION ;
POLYMER SHIELDING

Identifiers--KeyWords Plus: AFFINITY CHROMATOGRAPHY; BLUE SEPHAROSE;
BAKERS-YEAST; ADSORPTION; PURIFICATION; PROTEINS; RECOVERY;
ELUTION

14/8/10 (Item 9 from file: 34)

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05203383 Genuine Article#: VG927 Number of References: 8

Title: LARGE-SCALE RECOVERY AND PURIFICATION OF PERIPLASMIC
RECOMBINANT PROTEIN FROM ESCHERICHIA-COLI USING EXPANDED BED ADSORPTION
CHROMATOGRAPHY FOLLOWED BY NEW ION-EXCHANGE MEDIA (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: EXPANDED BED ; EXOTOXIN A ; CAPTURE ;
CHROMATOGRAPHY

Identifiers--KeyWords Plus: AERUGINOSA EXOTOXIN-A; ESCHERICHIA-COLI

Research Fronts: 94-8153 001 (RECOMBINANT GENES IN ESCHERICHIA-COLI;
PROTEIN-PROTEIN INTERACTIONS; DNA-BINDING DOMAINS; PACA SUBUNIT;
TYROSINE PHOSPHORYLATION)

14/8/11 (Item 10 from file: 34)

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04411160 Genuine Article#: TB190 Number of References: 39